

**STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
OFFICE OF CONSERVATION AND COASTAL LANDS  
Honolulu, Hawaii**

180-Day Exp. Date: September 20, 2011  
CDUA KA-3588

August 12, 2011

**Board of Land and  
Natural Resources  
State of Hawaii  
Honolulu, Hawaii**

**REGARDING:** Kūhiō Highway Slope Stabilization

**APPLICANT:** State of Hawai'i, Department of Transportation, Highways Division, 869  
Punchbowl St., Honolulu, HI 96813

**AGENT:** Tobias Koehler, AECOM Technical Services, 1001 Bishop St. Suite  
1600, Honolulu, HI 96813

**LANDOWNER:** Hanalei Valley Overlook LLC, PO Box 223040, Princeville, HI 96722

**LOCATION:** Kūhiō Highway at Lumaha'i and Waikoko, Hanalei, Kaua'i, between  
mileposts 5.0 and 5.17

**TMK:** (4) 5-4-004:032

**AREA OF USE:** 52,000 square feet, and 2500 square feet

**SUBZONE:** Resource

**DESCRIPTION OF AREA AND CURRENT USE**

Kūhiō Highway is believed to have been constructed by the County of Kaua'i circa 1930, and then given to the State of Hawai'i for maintenance and operation. The Kaua'i General Plan designates Kūhiō Highway as a Scenic Roadway Corridor.

The project area is located in the District of Hanalei, Kaua'i, approximately 0.5 miles south of Princeville and 1.3 miles from the coast. It is within the right-of-way near mile post 1 of Kūhiō Highway, as well as within approximately 3 acres of the 14.1 acre parcel TMK (4) 5-4-004:032. The latter part is located in the Resource Subzone of the State Land Use Conservation District, and is the subject of this application.

**Exhibit 1** shows the project site's location.

The project area is undeveloped land with a steep slope. The area has a history of rockfalls and failures due to the area's loose boulders, overhangs, and unstable soils. These slope failures have caused disruptions to traffic on Kūhiō Highway. **Exhibit 2** provides more details on the project site's slope.

AECOS Inc. conducted a botanical survey of the site in 2008, and observed a total of 94 fern, fern ally, and flowering plant species. Seven of these were indigenous species, five were Polynesian introductions, and none were state or federally listed. The flora was typical of lowland disturbed areas.

Kūhiō Highway was placed on the Hawai'i State Register of Historic Places in 2003 and on the National Register of Historic Places in 2004. It was placed on the registers due to its almost unchanged alignment of the road since the early 1900s; the absence of shoulders typical of early highways; and the presence of numerous one-lane bridges.

While the Hanalei area is rich in historic and cultural sites, none are known to exist in the project area itself. A historic perennial spring, which was once tapped to provide water to the Ching Ma Leong general store, appears to lie upslope and well out of the project area.

## **PROPOSED USE**

The proposed measures intend to mitigate the hazardous conditions using an anchored wire mesh and ring net system to contain most of the potential slope failure. Approximately 52,000 square feet of mesh would be installed over the lower portion of the slope. An approximately 2500 square foot ring net system would be installed on a small portion of the western slope. **Exhibit 3** shows the location of each of the installations.

The wire mesh and ring net systems are designed to contain rocks and ground debris from sliding down the hillsides. The systems use high strength steel that is connected in a way that creates flexibility to conform to unevenness of ground terrain and to provide strength in preventing rocks and soil from movement. The steel mesh openings are approximately 2 inches across, while the ring net openings are approximately 12 inches.

The proposed systems would be held in place with the installation of hollow core steel anchors, 1 ½ inches in outer diameter. Anchors in soil would be drilled into the ground surface approximately 20 feet deep; while those in bedrock would be approximately 5 feet deep. Once in the ground, a high strength grout mixture would be injected through the hollow shaft of each anchor that would cover the hollow space of the bored hole and once hardened, would provide frictional strength for the anchors. The steel mesh and ring-net would be tightly connected to these anchors. With the restraint systems connected to the ground anchors, both the rocks and soil beneath the systems would be confined.

Hydromulch and erosion mat would be located beneath the restraint systems to assist with the growth of new vegetation. The erosion mat proposed for this project would be composed of outer layers of ultra-violet (UV) stabilized heavy duty polypropylene

netting with an inner layer of coconut fibers. The main purpose of the erosion mat would be to provide ground protection that reduces erosion against forces caused by surface runoffs. It is designed to last a period of 2 to 4 years which would allow time for the new vegetation to root and stabilize on the existing steep slopes.

All exposed metals would be powder coated for additional protection and for aesthetical enhancement. Once installed, the mesh system would conform to the slope allowing re-growth of vegetation with minimal disturbance to the natural setting of the property and providing erosion protection of the soft soil areas.

“Slope dressing” will be required prior to installation. This will include clearing the vegetation, and smoothing rough rock surface areas and jagged outcrops. The system should require no maintenance once installed.

#### **SUMMARY OF COMMENTS**

The application was referred to the following agencies for their review and comment - The Department of Land and Natural Resources Divisions of Conservation & Resource Enforcement, Forestry & Wildlife, Kauaʻi District Land Office, Engineering, and Historic Preservation; the Department of Health; the Office of Environmental Quality Control; Kauaʻi County Planning; and the Hāʻena-Hanalei Community Association.

In addition, this CDUA was sent to the Princeville Public Library for public review.

Comments were received by the following and summarized by Staff as follows:

#### **OFFICE OF HAWAIIAN AFFAIRS (OHA)**

OHA has no comments or objections at this time. They look forward to seeing this project completed to ensure the safety of those traveling in the area.

#### **DEPARTMENT OF LAND AND NATURAL RESOURCES**

- **Land Division**

No comments

- **Engineering Division**

The Division confirms that the project is located in Flood Insurance Rate Map Zone X. The Flood Insurance Program has no special regulations in Zone X.

- **Historic Preservation (HPD)**

A review of the records showed that HPD has reviewed this project in 2008, and determined that it would have no effect on historic resources.

## ANALYSIS

OCCL notified the applicant on April 1, 2011 that:

1. The proposed use was an identified land use in the Resource subzone of the Conservation District, pursuant to Hawai'i Administrative Rules (HAR) §13-5-22, P-6, PUBLIC PURPOSE USES, (D-1) *Land uses undertaken by the State of Hawai'i or the counties to fulfill a mandated government function, activity, or service for public benefit and in accordance with public policy and the purpose of the conservation district. Such land uses many include transportation services, water systems, communications systems and recreation facilities.* The final authority to grant or deny the permit rests with the Board of Land and Natural Resources (BLNR).
2. Pursuant to HAR §13-5-40, a Public Hearing was not required;
3. Pursuant to HAR §13-5-31 *Permit applications*, the permit required that an environmental assessment be carried out.

The Office of Conservation and Coastal Lands (OCCL) received the January 2009 *Final Environmental Assessment for Kūhiō Highway Slope Stabilization* prepared by Earth Tech AECOM for the State Department of Transportation (DOT). The DOT was also the accepting authority for the document, and issued a *Finding of No Significant Impact* on February 2009.

Notice of CDUA KA-3588 was published in the April 8, 2011 issue of the *Environmental Notice*.

## CONSERVATION CRITERIA

The following discussion evaluates the merits of the proposed land use by applying the criteria established in HAR §13-5-30.

1. *The proposed land use is consistent with the purpose of the Conservation District.*

The objective of the Conservation District is to conserve, protect and preserve the important natural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety, and welfare.

The project is considered an identified land use in the subject area of the Conservation District; as such, it is subject to the regulatory process established in Chapter 183C, HRS and detailed further in Chapter 13-5, HAR. This process provides for the application of appropriate management tools to protect the relevant resources, including objective analysis and thoughtful decision-making by the Department and Board of Land and Natural Resources.

Staff believes the proposal is consistent with the purpose of the Conservation District as the proposal is within a previously disturbed area, is aimed at

protecting public safety, and will not have a significant impact on cultural or natural resources.

2. *The proposed land use is consistent with the objectives of the subzone of the land on which the use will occur.*

The objective of the Resource subzone is to develop, with proper management, areas to ensure sustained use of the natural resources of those areas. The objective of the Limited subzone is to limit uses where natural conditions suggest constraints on human activities. The proposed use is an identified land use in both of these subzones of the Conservation District, pursuant to HAR §13-5-22, P-6 PUBLIC PURPOSE USES.

Staff believes the slope stabilization project will not have a negative impact on the sustained use of the area's resources. It is designed to improve public safety, but should not lead to an increase in development pressures.

3. *The proposed land use complies with provisions and guidelines contained in Chapter 205, HRS, entitled Coastal Zone Management, where applicable.*

The proposed project is not near the shoreline. The applicant has submitted a letter dated April 30, 2008 from the County of Kaua'i Planning Department stating that the project is exempt from the provisions of the county rules relating to the Special Management Area.

4. *The proposed land use will not cause substantial adverse impacts to existing natural resources within the surrounding area, community, or region.*

Staff believes the proposed land use will not cause substantial adverse impacts to existing natural resources within the surrounding area, community or region. The proposal does not change the existing use of the area, and the slope is in an area that has been previously disturbed.

As the highway has been in existence since early part of the last century, OCCL does not believe that traditional cultural practices will be impacted by its repair. The slope stabilization will not impact the rural or historic character of the highway.

5. *The proposed land use, including buildings, structures and facilities, shall be compatible with the locality and surrounding area, appropriate to the physical conditions and capabilities of the specific parcel or parcels.*

The Kaua'i General Plan designates the Highway as a Scenic Corridor. The slope stabilization project is important to maintaining the integrity of the highway, and will not impede view plains, or negatively impact the integrity of the scenic corridor.

6. *The existing physical and environmental aspect of the land, such as natural beauty and open space characteristics, will be preserved or improved upon, which ever is applicable.*

The steep and unstable ground at the site limits the choice of alternatives. The combination of wire mesh, ring nets, and drainage reconstruction are based on engineering and environmental studies, and were the alternative with the least amount of visual impact and ground disturbance.

7. *Subdivision of the land will not be utilized to increase the intensity of land uses in the Conservation District.*

No subdivision of land is being proposed.

8. *The proposed land use will not be materially detrimental to the public health, safety and welfare.*

Kūhiō Highway is the only thoroughfare connecting the communities of Ha'ena, Wainiha, Hanalei, and Princeville on the North Shore of Kaua'i. A significant rockfall or landslide event could result in closure of the only highway linking these communities. DOT has prioritized implementation of slope stabilization measures at this location in order to provide safe access to the communities past Princeville.

Staff believes the proposed project will be beneficial to the public health, safety and welfare.

## DISCUSSION

The proposed use is an identified use within the Conservation District according to the Hawai'i Administrative Rules (HAR), § 13-5-22, P-6, PUBLIC PURPOSE USE.

Based on the above analysis, staff concludes that Kūhiō Highway Slope Stabilization Project is consistent with the rules and objectives of the Conservation District. Staff notes that the Department has received letters of support for the project, but no letters of objection or concern.

**RECOMMENDATION:**

Based on the preceding analysis, Staff recommends that the Board of Land and Natural Resources APPROVE this Conservation District Use Application (CDUA) KA-3588 for the Kūhiō Highway Slope Stabilization Project at Hanalei, Kauaʻi, TMK (4) 5-4-004:032, subject to the following conditions:

1. The applicant shall comply with all applicable statutes, ordinances, rules, regulations, and conditions of the Federal, State, and County governments, and applicable parts of the Hawaii Administrative Rules, Chapter 13-5;
2. The applicant shall comply with all applicable Department of Health administrative rules;
3. The applicant shall secure all permission from the landowner prior to commencing construction;
4. Any work done or construction to be done on the land shall be initiated within one year of the approval of such use, in accordance with construction plans that have been signed by the Chairperson, and, unless otherwise authorized, shall be completed within three (3) years of the approval. The applicant shall notify the Department in writing when construction activity is initiated and when it is completed;
5. Before proceeding with any work authorized by the Board, the applicant shall submit four (4) copies of the construction and grading plans and specifications to the Chairperson or his authorized representative for approval for consistency with the conditions of the permit and the declarations set forth in the permit application. Three (3) of the copies will be returned to the applicant. Plan approval by the Chairperson does not constitute approval required from other agencies;
6. All representations relative to mitigation set forth in the Environmental Assessment and Conservation District Use Application are incorporated as conditions of the permit;
7. The applicant understands and agrees that this permit does not convey any vested rights or exclusive privilege;
8. In issuing this permit, the Department and Board have relied on the information and data that the applicant has provided in connection with this permit application. If, subsequent to the issuance of this permit, such information and data prove to be false, incomplete or inaccurate, this permit may be modified, suspended or revoked, in whole or in part, and/or the Department may, in addition, institute appropriate legal proceedings;
9. Where any interference, nuisance, or harm may be caused, or hazard established by the use, the applicant shall be required to take the measures to minimize or eliminate the interference, nuisance, harm, or hazard;

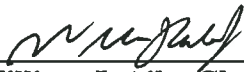
10. Should historic remains such as artifacts, burials or concentration of charcoal be encountered during construction activities, work shall cease immediately in the vicinity of the find, and the find shall be protected from further damage. The contractor shall immediately contact HPD (692-8015), which will assess the significance of the find and recommend an appropriate mitigation measure, if necessary;
11. Other terms and conditions as may be prescribed by the Chairperson; and
12. Failure to comply with any of these conditions shall render this Conservation District Use Permit null and void.

Respectfully submitted,



Michael Cain, Staff Planner  
Office of Conservation and Coastal Lands

**Approved for submittal:**



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**William J. Aila, Chairperson**  
**Board of Land and Natural Resources**



Map Document (L:\work\infra\1000777 Kuhio Hwy Slope Stabilization\EA and Permitting\EA\Figures\Fig 1-1\_SiteLocation.mxd)  
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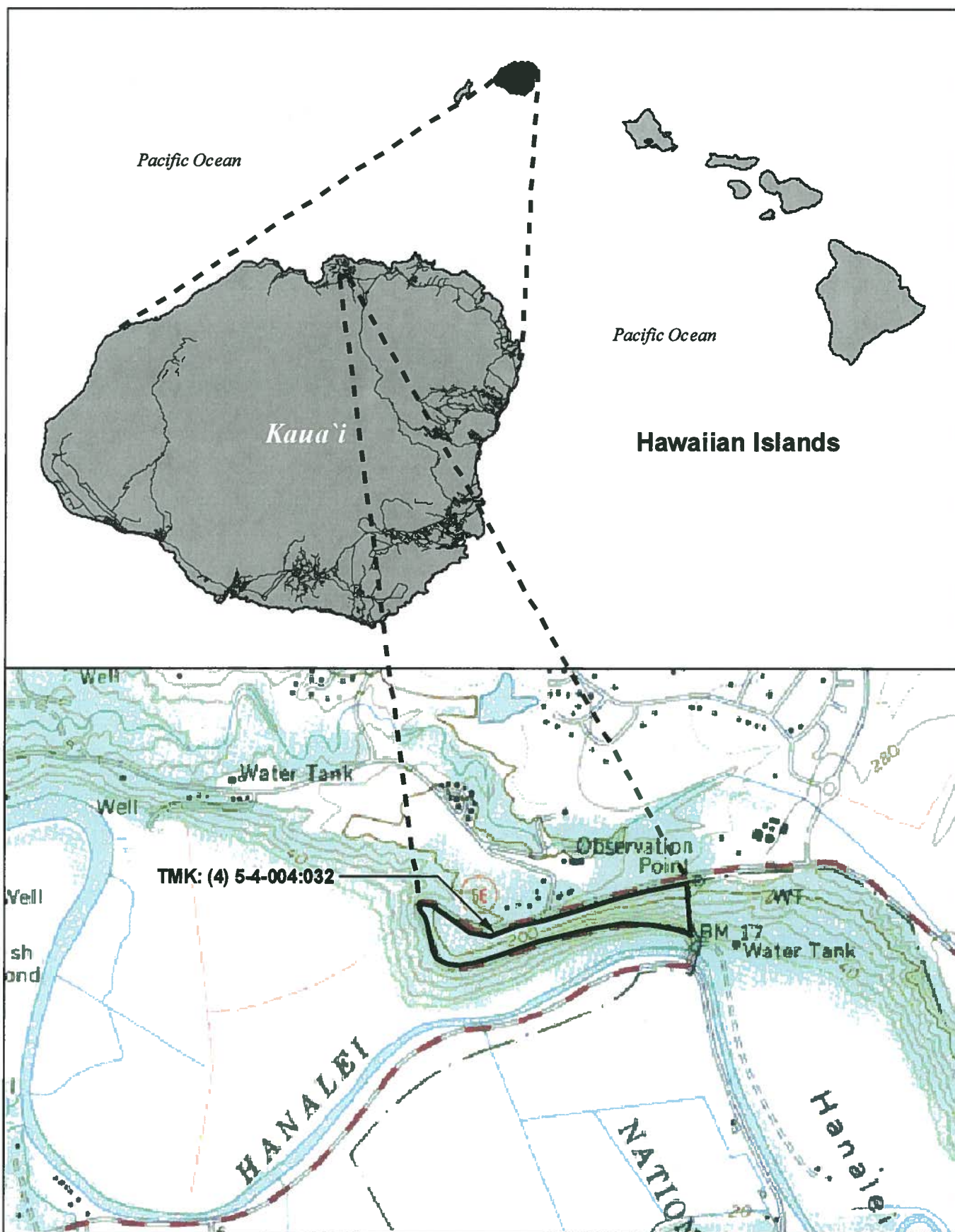
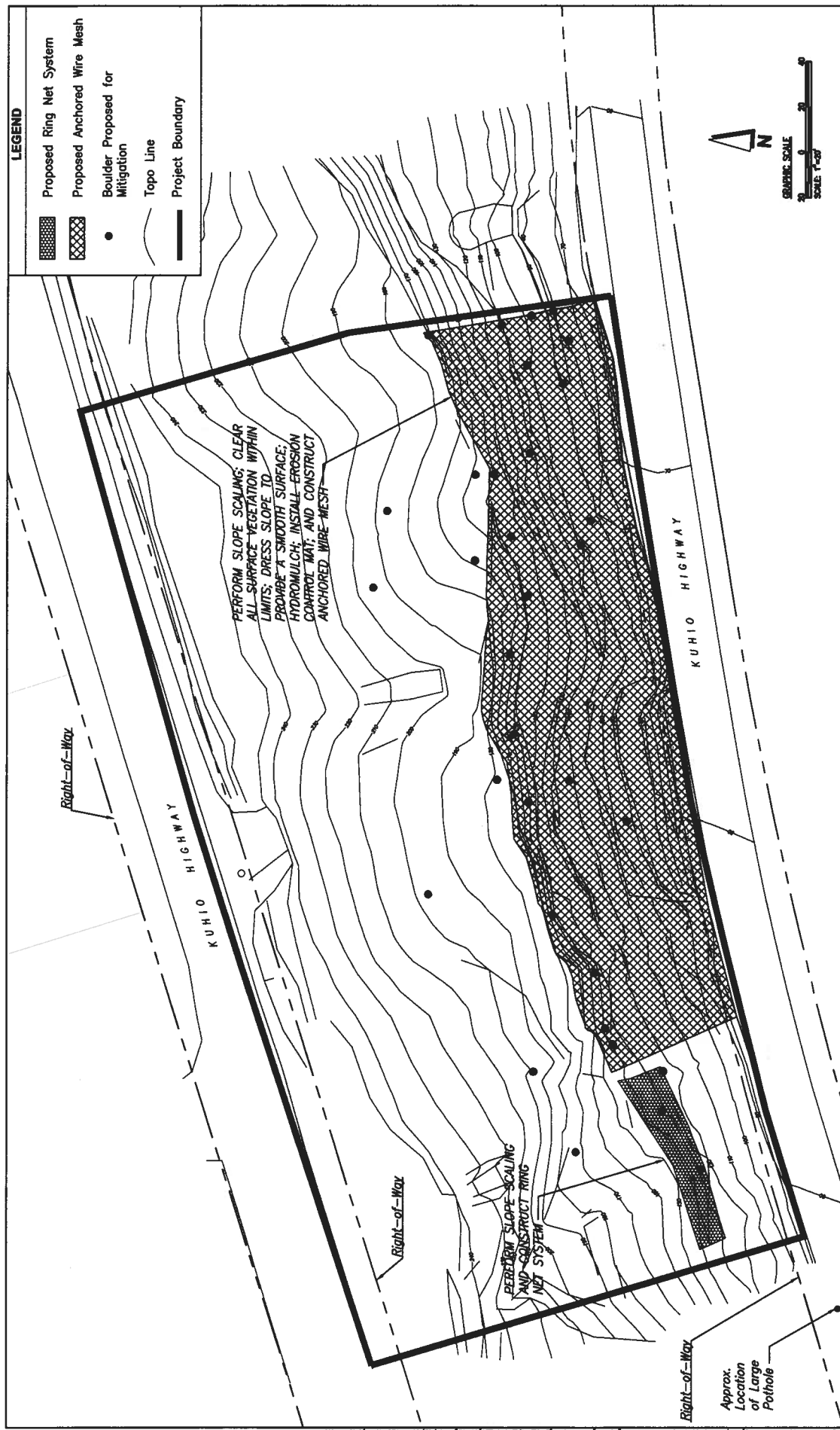


Figure 1-1  
Site Location and Topographic Map  
Proposed Kuhio Highway Slope Stabilization  
District of Hanalei, Kaua'i, Hawai'i

EXHIBIT 1





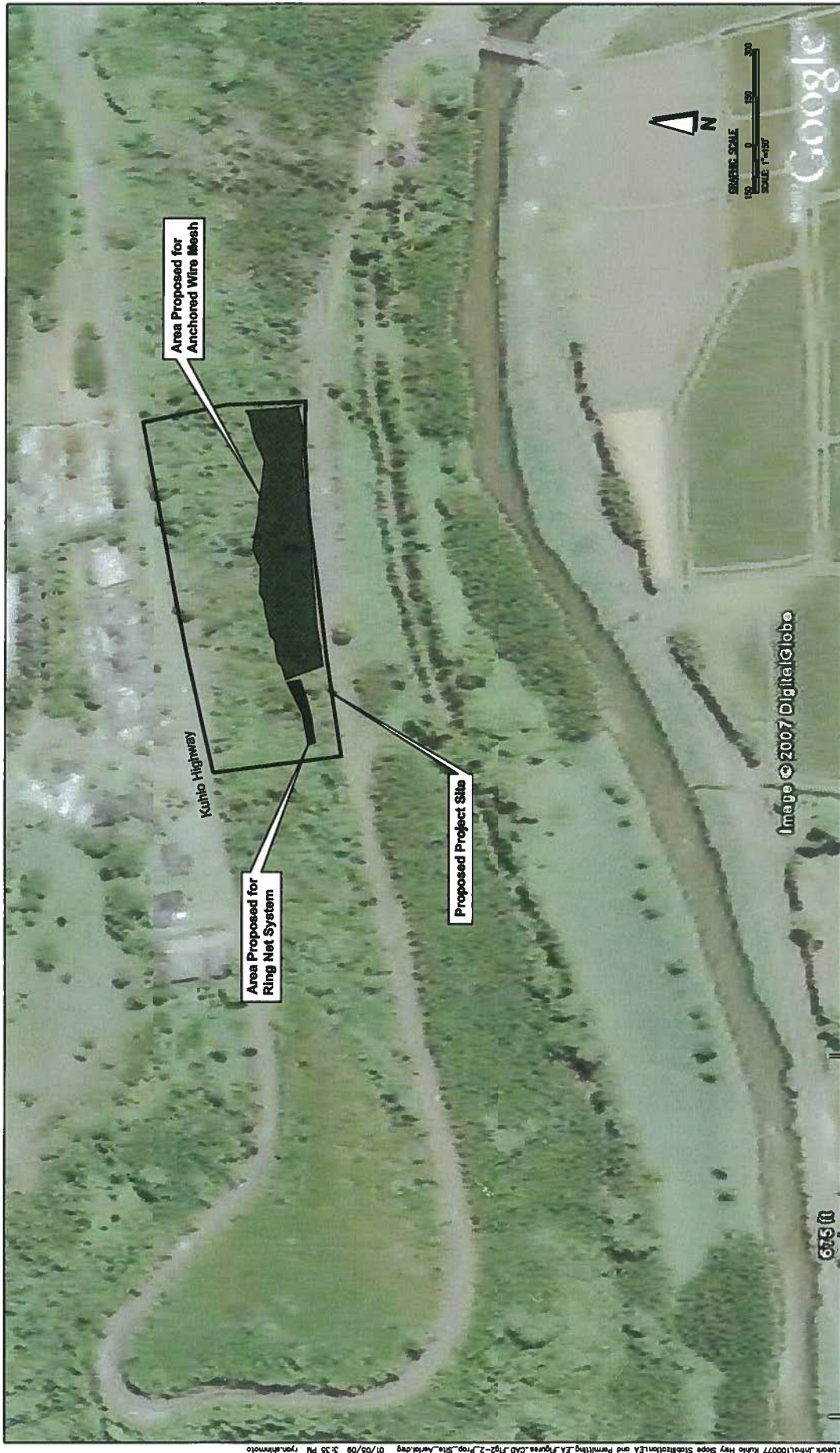


Figure 2-2  
Aerial Photo of Proposed Project Site  
Proposed Kuhio Highway Slope Stabilization  
District of Hanalei, Kaua'i, Hawai'i